CLAIM PTO/TW

11/9/04

1. Sensor device comprising a detecting means for detecting components present in fluid samples and providing an output representative of the content of said component and a permeable membrane interposed between the detecting means and a sample to be examined, characterised in that the said membrane is made of a composition containing an impermeable polymer and a poly-vinylpyridine ("PVP").
2. Sensor device as claimed in Claim 1 wherein the impermeable polymer is a polyvinyl chloride ("PVC")

3. (Amended) Sensor device as claimed in Claim 1 wherein the impermeable polymer and the PVP are mixed intimately.

4. (Amended) Sensor device as claimed in Claim 1 wherein the poly-vinylpyridine is derived from a compound containing a pyridine nucleus and a vinyl substituent.

5. (Amended) Sensor device as claimed in Claim 1 wherein the proportion of the poly-vinylpyridine is in the range 20 to 80%, (calculated on the total composition) by weight.

6. (Amended) Sensor device as claimed in Claim 1 wherein the thickness of the membrane is in the range 1 to 50 μm.

7. (Amended) Sensor device as claimed in Claim 1 wherein the

detecting means is an electrochemical detecting means.

8. (Amended) Sensor device as claimed in Claim 34 wherein the electrolytic detecting device operates in a liquid phase electrolyte-containing medium.

9. (Amended) Sensor device as claimed in Claim 7 wherein the electrode is a metal electrode.

10. (Amended) Sensor device as claimed in Claim 7 wherein the electrode is in combination with a counter electrode.

11. (Amended) Sensor device as claimed in Claim 1 wherein the sample under examination reaches the electrode by diffusion.

12. (Amended) Sensor device as claimed in Claim 1 wherein an enzyme is present to convert one analyte into another, for ease of detection.

13. (Amended) Sensor device as claimed in Claim 1 wherein a plurality of membranes made of other materials are used in conjunction with a membrane composed of an impermeable polymer and a poly-vinylpyridine.

14. Sensor device as claimed in Claim 13 wherein the membrane containing poly-vinylpyridine is the outermost layer so that it contacts the sample under examination.

Claim 15 cancelled.

16. (Amended) Method for determining a component in a fluid sample, which comprises contacting the sample with a sensor device as claimed in Claim 1.

17. Method as claimed in Claim 16 wherein the determination is made by an electrolytic analysis procedure.

18. (Amended) Method as claimed in Claim 16 wherein the component to be determined is a low molecular weight, non-volatile compound.

19. (Amended) Method as claimed in Claim 16 applied to the monitoring, measurement and assessment of one or more analytes.

20. Method as claimed in Claim 19 wherein the analyte is glucose.

21. (Amended) Method as claimed in Claim 17 wherein the mode of electrolytic analysis used is amperometric analysis.

Claim 22 cancelled.

23. (Amended) Polymer compositions comprising an impermeable polymer together with a poly-vinylpyridine ("PVP").

24. (Amended) Polymer compositions as claimed in Claim 23 wherein the impermeable polymer is a polyvinyl chloride ("PVC").

25. (Amended) Polymer compositions as claimed in Claim 23 wherein the impermeable polymer and poly-vinylpyridine are mixed intimately.

26. (Amended) Polymer compositions as claimed in Claim 23 which are in the form of a membrane.

Claims 27-31 cancelled.

32. Sensor device as claimed in Claim 4, wherein said compound is 4-vinylpyridine.

33. Sensor device as claimed in Claim 5, wherein the proportions of the poly-vinylpyridine is about 50% (calculated on the total compositions) by weight.

34. Sensor device as claimed in Claim 7, wherein said detecting means is an electrolytic detection device.

35. Sensor device as claimed in Claim 34, wherein said electrolytic detection device is an electrode.

36. Sensor device as claimed in Claim 34, wherein the electrolytic detection device operates in a gel phase electrolyte-containing medium.

37. Sensor device as claimed in Claim 8, wherein said liquid phase electrolyte-containing medium comprises an aqueous-

phase electrolyte-containing medium comprises an aqueous-based medium.

38. Sensor device as claimed in Claim 9, wherein said metal electrode comprises platinum.

39. Sensor device as claimed in Claim 10, wherein said counter-electrode is a silver/silver chloride counter-electrode.

40. Sensor device as claimed in Claim 10, wherein said combination comprises a platinum electrode surrounded by a silver/silver chloride ring.

41. Method as claimed in Claim 18, wherein said component is selected from the group of a sugar or a natural phenol.

42. Method as claimed in Claim 16, wherein said fluid sample comprises a biological medium.

43. Method as claimed in Claim 42, wherein said biological medium is a bodily fluid.

44. Method as claimed in Claim 42, wherein said biological medium is blood.

45. Method as claimed in Claim 17, wherein the mode of electrolytic analysis used is pulsed amperometric determination.

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